

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BEAR HILL POND	Lake Area (ha): 13.23
Town: ALLENSTOWN	Maximum depth (m): 7.0
County: Merrimack	Mean depth (m): 2.4
River Basin: Merrimack	Volume (m ³): 317500
Latitude: 43°06'49" N	Relative depth: 1.7
Longitude: 71°21'57" W	Shore configuration: 1.63
Elevation (ft): 666	Areal water load (m/yr): 2.40
Shore length (m): 2100	Flushing rate (yr ⁻¹): 1.00
Watershed area (ha): 64.2	P retention coeff.: 0.78
% watershed ponded: 0.0	Lake type: artificial

BIOLOGICAL:

20 February 1997

18 July 1996

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 85%	FILAMENTOUS GREENS 50%
	#2	SYNURA 15%	TABELLARIA 35%
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			1.33
DOM. ZOOPLANKTON (% TOTAL)	#1	ASPLANCHNA 51%	POLYARTHRA 24%
	#2	KERATELLA 28%	KERATELLA 21%
	#3	NAUPLIUS LARVA 14%	ASPLANCHNA 16%
ROTIFERS/LITER		136	35
MICROCRUSTACEA/LITER		34	23
ZOOPLANKTON ABUNDANCE (#/L)		170	58
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			5.5
BOTTOM DISSOLVED OXYGEN (mg/L)		8.6	0.9
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

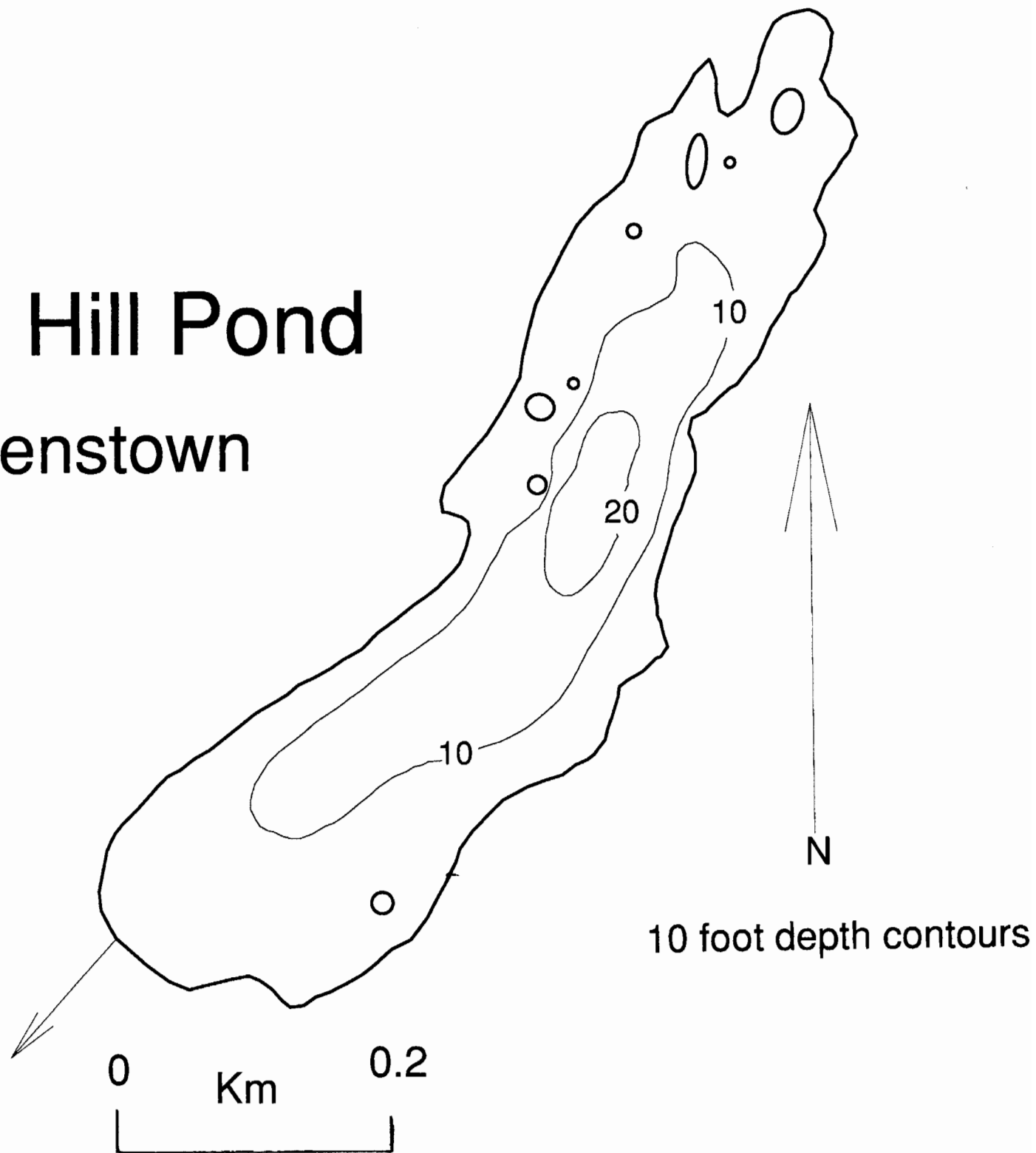
weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : 3900

CHEMICAL:		Lake: BEAR HILL POND Town: ALLENSTOWN				
	20 February 1997		18 July 1996			
DEPTH (m)	2.0	5.0	2.0		4.0	
pH (units)	4.6	4.6	4.5		4.5	
A.N.C. (Alkalinity)	-1.2	-0.6	-1.3		-1.3	
NITRATE NITROGEN	0.05	0.05	< 0.05		< 0.05	
TOTAL KJELDAHL NITROGEN	0.28	0.39	< 0.10		< 0.10	
TOTAL PHOSPHORUS	0.012	0.012	0.005		0.014	
CONDUCTIVITY (µmhos/cm)	28.1	27.9	25.5		26.7	
APPARENT COLOR (cpu)	17	15	< 5		5	
MAGNESIUM			0.18			
CALCIUM			< 1.0			
SODIUM			1.2			
POTASSIUM			< 0.40			
CHLORIDE	< 2	< 2	2		2	
SULFATE	5	5	5		5	
TN : TP	28	37				
CALCITE SATURATION INDEX						
All results in mg/L unless indicated otherwise						
TROPHIC CLASSIFICATION: 1996						
	D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
	**	1	3	0	4	Oligo.
COMMENTS:						
<ol style="list-style-type: none"> 1. Bear Hill Pond is a manmade pond located within Bear Brook State Park. 2. It is a clear, acid pond with no buffering capacity (no alkalinity). 3. The plankton (both phytoplankton and zooplankton) were more abundant in the winter than in the summer (unusual). The summer net phytoplankton were not only sparse but were unhealthy looking and were primarily fragments of filamentous green algae with deteriorating or shriveled chloroplasts. Filamentous greens frequently dominate acid-stressed ponds. 						

Bear Hill Pond

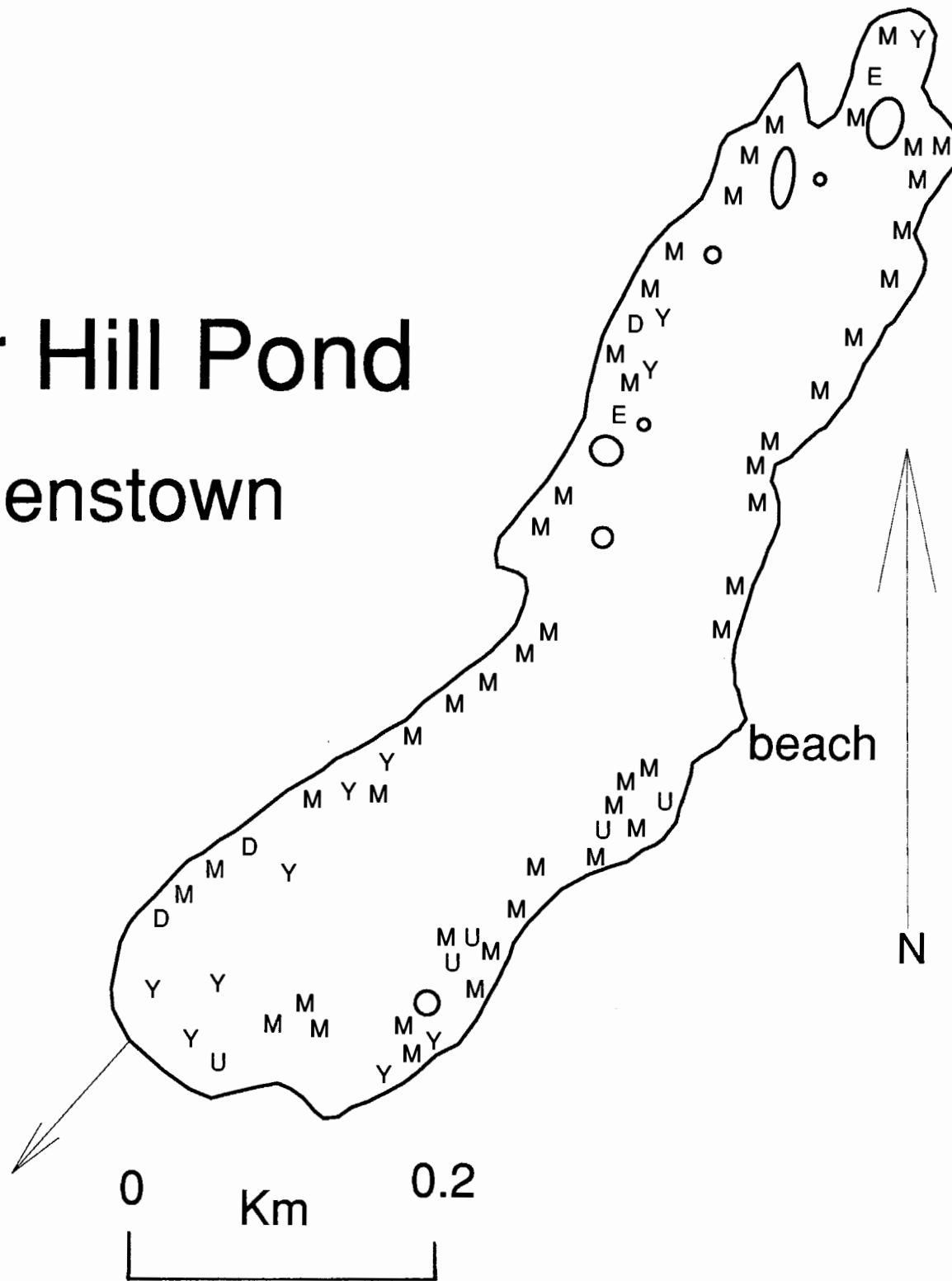
Allenstown



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Bear Hill Pond

Allenstown



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